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ABSTRACT

There are inexpensive products available that can provide some of the motivation, self-correction, and reinforcement aspects of computers in the classroom. Five of these are: Spelling B, Charlie, Speak and Spell, Step Language Board, and Spellbinder. Seven teachers used each product with severely disabled readers in a reading laboratory and with students in regular classrooms for three weeks. The teachers then rated the products on a five point scale according to educational value, ease of operation, motivation, distractibility, instructions, sustained interest, durability, packaging, attractiveness, and overall impression. (HOD)

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Inexpensive Alternatives to Computers for Classroom Use

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Inexpensive Alternatives to Computers
for Classroom Use

Computers are coming or in some cases computers are here, in classrooms for instruction and reinforcement. However many schools pinched by inflation, rising energy costs, and tax revolts find computers financially out of reach. While computers may be used on a district-wide basis for diagnosis-prescription or record keeping purposes, they may not be feasible for classroom use at this time. Fortunately, there are inexpensive materials available which can provide some of the motivation, self-correction, and reinforcement aspects of computers in the classroom. Five of these which are reviewed here are Spelling B, Charlie, Speak and Spell, Step Language Board, and Spellbinder. None of these costs over $150.00 and most are available for less than $50.00.

Seven graduate students enrolled in a reading practicum as part of a Master's Degree program in reading evaluated each material. They were used with severely disabled readers in the reading laboratory (practicum) and with students in regular classrooms. The teachers used each product for three weeks and then filled out an evaluation form. Criteria rated on a five point scale (5 = excellent, 1 = poor) were: educational value, ease of operation, motivation, distractibility, instructions, sustained interest, durability, packaging, attractiveness, and an

overall rating. This last item was a separate rating, not a mean of the other ratings. Comments were solicited and most respondents included additional comments in addition to using the rating scale.

The means of the teacher's ratings for each material are shown in Table I. All teachers did not use Charlie or the Step Language Board. An overview of each material and the teachers' evaluations follow.

TABLE I

Means of Teacher's
Ratings of Five Materials

	Spelling B n = 7	Charlie n = 6	Speak and Spell n = 7	Step Language Board n = 5	Spellbinder n = 7
Educational Value	4.0	3.2	4.6	4.6	4.4
Ease of Operation	4.0	4.0	4.1	4.4	3.7
Motivation	4.7	4.5	5.0	4.4	4.9
Distractibility	4.0	3.0	3.4	4.0	3.9
Instructions	4.0	3.7	3.7	3.6	4.0
Sustained Interest	4.4	4.0	4.7	4.4	4.1
Durability	3.7	4.0	4.0	4.4	4.3
Packaging	4.3	4.2	4.1	3.4	3.4
Attractiveness	4.1	4.3	4.3	3.8	4.3
Overall	4.1	3.5	4.4	4.4	4.4

Spelling B

Texas Instruments
Available at many retail stores
$29.95 - Discounts may be available

Spelling B is a small, colorful calculator that uses letters instead of numbers on the keys and display board. It comes with a Picture Book which contains 264 pictured entries and complete directions for operations. The directions are easy to read and are also pictured so children can follow them readily. The pictures of the spelling words are clear and colorful but possible errors can occur if the picture of a cap is interpreted as hat for instance, or toes for feet, etc.

Operation of the calculator is simple and gives instant feedback. In the basic operation a number appears in the window, the child turns to that number in the picture book and enters the word by pressing the letter and enter keys. Immediately RIGHT or WRONG appears. If the answer is correct, another number appears for the next word to be spelled; if incorrect, the same number appears for a second try. If the child is wrong again, the correct spelling appears followed by another number for the next word. After every five words the score of the number correct on the first try is shown in stars and numbers.

There are several additional features on Spelling B. An erase key provides the ability to change an entry and a clue key gives the next letter if a child needs help.

Some game variations are also programmed into the machine. These include Starts With, a readiness activity which requires

identification of only the beginning sound in a word; Missing Letters which provides some letters and has the child fill in the blanks; and Mystery Word, which is similar to the old time game of Hangman. The Scramble game allows extra words to be added to the machine's memory bank. Up to five new words can be entered at one time, then each word is presented in a scrambled form for the player to spell and enter correctly. This latter feature provides a limitless expansion of the words available for use with Spelling B.

The teachers who used this material in classroom and laboratory situations rated it highly in motivation, ability to sustain interest, and ease of operation. They particularly liked its versatility with the number of games and activities that can be used with it. Another advantage frequently mentioned was the ability of the computer to accept additional words in its memory bank. With this feature the teacher can add words from the classroom spelling program for on-the-spot practice.

A disadvantage to many of the teachers was the length of time a correct answer is shown after a child misses twice. The time was judged too short for the student to benefit from the correction. Durability of the material, primarily the case and instructions folder, was also considered weak. The clasp on the case broke during the first week's use, and the spiral binding of the instruction folder began to unravel after several weeks in the classroom.

Charlie

Educational Insights
211 S. Hindry Avenue
Inglewood, CA 90301

Charlie Teaching Robot (battery model) - $45.00
Charlie Teaching Robot with AC line adapter and earphone jack - $80.00

Charlie is a small desk size teaching machine, designed to look like a robot. A flat electronic grid is shaped to accept program cards and at the top of the grid a dome contains colored windows which light up for correct answers. Program cards contain pictorial, word, or sentence material with multiple choices available. A probe is attached to the console for the student to indicate the answer choice. If correct the colored lights flash on and off and an audible electronic sound is also given. Card sets are available for such reading skills as beginning and ending sounds, alphabet recognition, synonyms, main idea etc. In addition blank card sets are available for teachers to make their own reinforcement cards.

The pulsing sound unit can be adjusted in volumne or turned completely off. Only the more expensive model is equipped to accept an earplug.

Charlie was rated as attractive and highly motivating at first by the teachers but it did not sustain this high degree of interest for a longer period of time. The provision of blank cards so teachers could prepare their own review activities was a positive feature. The sound reinforcer was judged highly distractible in all situations and teachers required the adjustment

feature to turn off the sound. Some even felt the flashing light was distractible in the classroom.

One user pointed out the right-handedness of this product with the parking pointer mounted on the right side. Why, she asked, couldn't the pointer be mounted in the center to make its use less awkward for left-handed pupils?

Speak and Spell

Texas Instruments
Available at many retail outlets
$49.95 - Discounts may be available

Speak and Spell is a small light-weight spelling computer made of brightly colored hard plastic. The display window shows each letter as it is pressed and an electronic voice names the letter. Over 200 words are programmed into the computer. In the basic program function, the voice asks the student to spell a word, tells the student it is correct and gives another word to be spelled. If incorrect, the voice says "wrong, try again," and repeats the word to be spelled. If an incorrect spelling is given again, the voice gives the correct spelling and then asks for another word. The student's score is given orally after 10 words. The words stored in the computer are in sets of 10 and are at four levels of difficulty. A number of variations of this basic program is provided as well as many games such as Mystery Word (similar to Hangman), Letter Shopping (a bingo format), I Have a Clue, and I Spy A to Z.

This material received high marks from classroom and laboratory teachers as a motivational tool and also for its ability

to sustain interest over the long run. Children did not tire of its use even on a daily basis. Teachers also considered it easy to use and durable.

Two major areas were consistently stated as disadvantages for this product. The noise of the voice was distracting to other students at work and the voice was difficult to understand on some phonemes, such as ban - van or ban - band etc. An outlet for an earplug would be a help for classroom usage.

Step Language Boards

Step Inc.
South Complex - Paine Field
Everett, WA 98204

Board	- $10.65
Letter Sets	- 5.65
Word Sets	- 13.65

The Step Language Boards consist of a desk size, hard plastic board and interlocking pieces which fit into the board only if they are placed correctly. The boards are either blank, printed with upper or lower case letters, or with picture symbols for each letter (a dog is pictured for D, a goat for G etc.). Sets of upper and lower case letter chips are available and the individual letter chips can be placed in the board to match the picture or letter symbols. The interlocking feature of the board and letter chips provides immediate feedback for correct or incorrect choices. The board and letter sets can be used to teach letter recognition, alphabetical order, matching of upper and lower case letters, and beginning sounds.

Word strip sets are also available. The border of each word strip interlocks with the letter chips which either spell the word or complete the word pattern printed on the word strip. For example a word strip for beginning vocabulary has a picture of a dog on it. The letter chips for d-o-g are placed above the word strip and will fit correctly into the interlocking border. With the beginning sounds strips, four pictures and partial words are on each strip. A sample strip has four _ug words with a picture of a bug, jug, tug, and rug. The beginning letter chips for b, j, t and r will fit correctly into the word strip. Other skill sets are available for ending sounds, middle vowel sounds, long and short vowel word families, and many spelling patterns.

Primary grade teachers liked this product. Features which were positively noted were its ease of operation for young children, manipulative and immediate-feedback qualities, durability, and operation without batteries or an outside power source.

Packaging was noted as a weakness. Keeping all the pieces together and sorted by skill sets was troublesome. The boxes provided for each skill set were flimsy and did not last long.

Spellbinder

Spellbinder, Inc.
33 Bradford Street
Concord, MA 01742

Basic console kit with 1 response deck, carrying case, and power module	- $72.00
Each series of cards with workbook and teacher's guide	- $72.00
Additional response decks	- $10.00

Spellbinder consists of a small desk size console which requires an electric power outlet. The flat horizontal surface of the console accepts plastic cards which are printed with partial words or sentences or pictures. The vertical surface accepts letter or word chips which if placed correctly cause the surface to light up.

Many different skill sets are available for use with the basic console. For example, phonics elements such as consonants, digraphs, vowel sounds and patterns are reinforced in contextual settings. Readiness and spelling programs are also available. One phonics series which includes R controll' vowels and irregular vowels and digraphs has a variety of activities on the console cards. On one there is a picture of five pairs of chairs. The printed message is: "There are fiv pairs of _____ on this card." If the pupil correctly places the letter chips C-H-A-I-R-S on the vertical surface, it will light up. There are ten such console cards to a set, all reinforcing one skill area. Ten sets of cards are boxed and sold as a series. Each card is numbered for refiling and storage after use.

The Teacher's Guide provides overall directions for use of the machine, console cards, and chips. Specific directions for the individual cards are included on the cards if needed, although most are self-explanatory. Pupil workbooks are also available

with each series of master cards. They contain extension of the exercises in the series and are cross-referenced to specific console cards by number. The child can check workbook answers by referring to the designated cards. The Teacher's Guide also includes suggestions for ten game variations which can be played using the Spellbinder and its cards.

Teachers who used this product rated it highly in motivation but once again interest dropped off with extended use. They liked the flexibility of the different skills areas available for reinforcement. The many sets of cards and chips were hard to keep organized but the management folders which can be purchased for storage of the chips were considered helpful. The card sets would be easier to use and store if dividers were provided within the cases.

If you are looking for something with the motivational and feedback advantages but without the high cost of a computer, you may want to consider one of these five materials. They can meet a need in many classrooms.